

Soil Samples

1955

Belgian Congo

- 14 A from foot path at Wagenia fishery, Stanleyville, April 19.
- 14 B from shoreline, muddy sand, Wagenia fishery, Stanleyville, Apr. 19.
- 17 rotten wood from log in "robusta" coffee field, Yangambi, Apr. 24.
- 21 from among rubber trees, near "robusta" field, Yangambi, Apr. 24.
- 22 ten feet from base of giant tree (Entandrophragma), Yangambi, Apr. 24.
- 26 just past kilometers 156 out of Stanleyville, on road to Mia-Mia, April 26.
- 28 from base of old tree stump in coffee plantation, 245 kilometers out of Stanleyville, April 26.
- 33 moist mud, about 2 ft. above water level, Oba River, on road to Paulis, 20 kilometers from Wamba, April 27.
- 35 from base of termite mound, oil nut buying stop, on road to Niangara, April 28.
- 41 from antelope field, Gangala-na-Bodio, April 29.
- 42 from baby elephant wallow (mud puddle on river bank), Gangala-na-Bodio, April 29.
- 43 from side of side road into Huillerie "Mbengu," enroute Gangala-na-Bodio, April 29.
- 44 right side main road at Huillerie "Mbengu," enroute, Gangala-na-Bodio, April 29.
- 45 from roadside ditch, Dangu road enroute Gangala-na-Bodio, April 29.
- 46 at top of slope before second "ferry", Garamba Park, April 30.
- 47 at shoreline, second ferry, Garamba Park, April 30.
- 49 from between roots of large acacia, right side Watsa road fork at Faradje, May 1.
- 50 from bank 3 feet above road, right side Goto-Nioka road, 45 kilometers from Wika, May 1.
- 52 from corn field, native village, before Nioka veterinary laboratory, May 2.



Belgian Congo

- 53 Nioka, Ineac Agric. Exper. Station garden, May 2.
- 54 same as 53, but from coffee field near offices top of hill, May 2.
- 55 from bank across road from coffee field (No. 54 above), May 2.
- 57 from down hill side of road, Kasenyi road (returning), May 3.
- 58 from between roots of big tree, entrance Mt. Hoyo caves, May 4.
- 59 soil and rock sample from floor of 2nd cave, Mt. Hoyo, May 4.
- 60 under shade of cactus top of bluff before guest house, Ishango, May 6.
- 61 roadside, top of south road, Ishango, May 6.
- 62 from low point of afternoon drive, s. w. road, Ishango, May 6.
- 63 by log in pygmy village, 23 kilometers from Beni, May 8.
- 64 from path to pygmy village near Beni, May 8.
- 65 from Dicha hospital grounds, A.I.M., 30 kilometers from Beni, May 8.
- 67 near hippo dung, near bathing spot monument, Rwindi Camp, May 10.
- 66 near kilometer-post 469 out of Butembo on way to Rwindi Camp, May 9.
- 68 from buffalo watering place near pelican ground, Rwindi, May 10.
- 69 from hippo shore, near No. 67, Rwindi Camp, May 10.
- 70 from top of bank above lion feeding ground near hippo-pool afternoon, May 10.
- 71 roadside rut Tshibat1 Farm, Lwiro, May 15.
- 72 from bank of stream, Tshibat1 Farm, Lwiro, May 15.
- 73 from entrance of Mia-ya-moto bat cave, Lake Kivu, May 16.
- 74 from path to No. 73 bat cave, May 16.
- 75 <sup>(\*)</sup> rock and black volcanic soil from Mulungu farm (Hendrickx), May 17.
- 76 from cotton field, south of Uvira, Lake Tanganyika, May 20.
- 77 from bank of stream near railway, Uvira, Lake Tanganyika, May 20.
- 78 bottom sample dredged from 13 meters, off Uvira station, Lake Tanganyika, May 20. (if of no use to you return sometime can be sterilized or fumigated afterwards.)
- 79 roadside excavation out of Astrida, red patch at bottom of pit, May 23.

(\*) Return what is not used; represents "break-down" of some old lava I also saved; could be sterilized or fumigated afterwards.



## Belgian Congo

- 80 opposite side of road from No. 79, dry dark soil near tree and among grass roots, 67 kilometers out of Astrida, May 23.
- 81 from among grass roots on road to Gabiro, near welcome sign to province of Kibungu, May 23.
- 82 near where zebras were photographed Kagera Park, May 24.
- 83 from crocodile nest pit, Kagera Park, May 24.
- 84 from top of hill where rest house is to be built, Kagera Park, May 24.
- 85 from causeway ditch, Kagera Park, May 24.
- 86 from grass roots top of causeway ditch, Kagera Park, May 24.

## Uganda

- 87 on road to Juba, May 28.

## Sudan

- 88 near puddle near shore, Buffalo Cape, river Nile, June 1.
- 89 between piles of wood, Buffalo Cape, river Nile, June 1.
- 90 hard lumps of soil, Buffalo Cape, river Nile, June 1.
- 91 from shore Kaka, river Nile, June 2.
- 92 soft black soil from just above water's edge, Salem Bango, river Nile, June 3.
- 93 Jebelen, river Nile, June 4.



# Soil Samples

Caribbean

Smithsonian-Breeding Expedition, 1958

- # 1 St. John, Mar. 26, Francis Bay  
above beach
- # 2 Virgin Gorda, The Baths Mar. 29
- # 3 Virgin Gorda, The Baths, Mar. 29  
(soil excavated from water  
hole) ~~Spain~~
- # 4 Peter Id. Little Bay, Mar. 29
- # 5 ~~Mrs. Phil~~ Tortola, Mar. 30, soil from  
Mrs. Phil's garden above  
Road Down ~~in~~
- # 6 Tortola, ~~Mar~~ Mar 31, hill, north  
side, Soper's Hole
- # 7 Lost Van Dyke Apr. 2
- # 8 Anegada, Pomato Pt. Apr. 8
- # 9 St. Martin, Little Bay Apr. 11  
from hotel grounds
- # 10 St. Martin, Old Fort Hill, Apr. 12
- # 11 Anguilla, Road Bay, Apr. 13  
(over)



~~Antigua, Desmonds Place~~  
# 12 ~~English Harbor~~ → Apr. 20  
Antigua, English Harb,

13 Barbuda, Apr 25, from path  
above Dark Cave

14 Antigua, Desmond Nicholsons  
Place Apr. 23

15 Barbuda, Apr. 25, from  
entrance of Dark Cave

16 Barbuda, Apr. 25, inside  
Dark Cave

17 Barbuda, Apr. 25 Bryant  
Cave. (Bryant not Bryan)

18 } Debris from Darby Cave  
19 }  
20 } Barbuda, Apr. 26.

21 } Antigua, May 1, ~~from well~~  
22 } ~~inside of~~ Bat Cave

23 Antigua, May 1 at entrance  
of Bat Cave

24 Antigua, May 1 at foot of  
path leading to Bat Cave

25 Antigua, May 1, mud from edge  
of f.w. pool on road to Bat Cave.



A letter has, has not, been written.

SMITHSONIAN INSTITUTION

WASHINGTON 25, D. C., U. S. A.

C. & R. File No. \_\_\_\_\_

SHIPPING INVOICE

Date \_\_\_\_\_

To Dr. Dale E. Wolf, Manager  
Agricultural Chemicals Section  
E. I. du Pont de Nemours & Co  
Grasselli Chemicals Department  
Building 268, Experiment Station  
Initiated by Wilming<sup>98</sup> Delaware  
Waldo L. Schmitt

Recommended Waldo L. Schmitt  
Head Curator.

Approved \_\_\_\_\_  
Bureau Director.

Shipped \_\_\_\_\_ by \_\_\_\_\_  
Prepaid; Collect; Messenger.

Chief, <sup>Dept.</sup> Division of Zoology

The material listed below contained in \_\_\_\_\_ is transmitted as—

- (1) a gift. (3) in exchange. (5) return of material borrowed. (7) \_\_\_\_\_  
(2) a loan at your request. (4) for examination at our request. (6) return of material sent for identification. (8) \_\_\_\_\_

LIST OF SPECIMENS

NAME OF OBJECT	LOCALITY	COLLECTOR	CATALOG No.	NUMBER OF SPECIMENS
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63 Soil samples from the Belgian  
Congo, Uganda, and the Sudan

RETAIN THIS COPY FOR YOUR RECORDS

NOTE.—Loans are made for 2 months unless otherwise stipulated.

In connection with material sent out for identification all types and uniques must be returned.

Retention of any other material is permitted only on definite arrangement.

Received the above in good order (date) \_\_\_\_\_



# Soil Samples

# ~~13~~

Apr. - 13 -

Leo.

—

Leo.

—

Leo.

—

Apr. - 13 -

Leo

# 14 A  
14 B

Apr. - 13 -

Leo

Apr. - 15 -

native mkt.

Stanleyville

Apr. 19

Apr. 19 Stan.

#

17

Yangambi Apr. 24.  
rotten wood.

? #

49

Faradji May 1

#

21 ✓

Yangambi. Apr. 24

#

22 ✓

"

"

24

(Foot of giant tree)

23

Sichen

#

26 ✓

156 km out from  
Stanleyville (Nia Nia Rd.)  
Apr. 26  
Km. 229  
Apr. 26

#

28 ✓

Call Cochran



# 61362 Ishango May 6 May 6  
 65 64 pygmy village May 6  
 66 Butembo Rwindi Rd. May 9  
 67 Dipoo. Rwindi May 10  
 68 Rwindi Camp. May 10  
 69 May 10

70 Dipoo Pool. May 10

71 Rd. Sid. Shiro, farm May 15.

72 Bank of stream Lwiro. " "

73 Entrance to bat cave May 16

? { 74 Maya moto bat cave

⊗ 75 Mulungu May 17.

76 Cotton field Lwiro May 20

77 Bank of stream May 20

\* Bot. Lake Sample

78 Uvira.

79

80

81

48.m. K1564

May 20

82

10:30

May 23

83

May 24

84

game bad.

85

86

87 Rd to Deb a

88

89 Buffalo Cape.

90

91

92

93



# 33 ✓

# 35 ✓ Palm oil factory Apr. 28

# 41 ✓ Gangala Apr. 29

# 42 ✓ " " "

43 ✓ " "

# 44 ✓ Apr. 29

# 45 ✓ Dunga Rd. Apr. 29

# 46 ✓ Apr. 30

47 ✓ Gurumba Pl. Apr. 30  
(river shore)

49

# 50 ✓ May 1

# 52 ✓ Native village <sup>near</sup> Nioka May 2

# 53 ✓ May 2

~~54 ✓ Iheac Nioka May 2.~~

55 ✓ Lwiro May 3

57 ✓ May 3

? - 58 ✓ ~~in bat case.~~ May 3

59 ✓ May 4

60 Ishango May 6



Belgian Congo <sup>center</sup> Soil samples, (Belgian Congo) 1955

14 A from foot path at Wagenia Fishery  
Stanleyville Apr. 19.

14 B. from shore line, muddy sand, Wagenia  
fishery, Stanleyville, Apr. 19.

17 rotten wood from log in "robusta" coffee  
field, Yangambi, Apr. 24.

21 from among rubber trees, near "robusta"  
field, Yangambi, Apr. 24.

22 ten feet from base of giant tree (Entan  
drophragma), Yangambi, Apr. 24

26 just past kilometers 156 out of Stanley-  
ville, on road to Nia-Nia, Apr. 26.

28 from base of old tree stump in coffee  
plantation, 245 kilometers out of Stanley-  
ville, Apr. 26.

33 moist mud, <sup>about</sup> 2 ft above water level, ~~on~~  
Obe River, on road to Paulis, 20  
kilometers from Wamba, Apr. 27.

35 from base of termite mound, <sup>oil nut</sup> ~~on~~  
<sup>buying</sup> ~~stop~~ ~~before~~ ~~the~~ ~~MBenga~~ on  
road to Niangara, Apr. 28.



- 41 From antelope field, Gangala-na-Bodio,  
Apr. 29.
- 42 From baby elephant wallow (mud puddle  
on river bank), Gangala-na-Bodio, Apr. 29.
- 43 From side of <sup>side</sup> road into Huilerie "Mbengu",  
enroute Gangala-na-Bodio, Apr. 29.
- 44 right side main road, <sup>at</sup> Huilerie "Mbengu",  
enroute, Gangala-na-Bodio, Apr. 29.
- 45 From roadside ditch, Dungu road en-  
route Gangala-na-Bodio, Apr. 29.
- 46 at top of slope before second "ferry"  
Garamba Park, Apr. 30.
- 47 at shore line, second ferry, Garamba  
Park, Apr. 30.
- 49 From between roots of large acacia  
right hand side Watsa road Fork at  
Faradje, May 1.
50. From <sup>bank 3 feet above road,</sup> right side Goto-Nioka road,  
45 kilometers from Nioka, May 1.
- 52 From corn field, native village, before  
~~Ineac Station~~, Nioka veterinary  
laboratory, May 2.



: 53 Nioka, ~~INBAQ~~ Agri. Exper. Station garden  
May 2.

54 same as 53, but from coffee field  
near ~~administ~~ offices top of hill  
May 2.

55 from bank across road from coffee  
field (#54 above), May 2

57 from down hill side of road, Kasenyi  
road (returning), May 3.

58 from between roots of big tree, entrance  
Mt. Hoyo caves, May 4.

59 soil and rock sample from floor of  
2nd cave, Mt. Hoyo, May 4.

60 under shade of cactus top of bluff  
before guest house, Ishango, May 6.

61 road side, top of south road,  
Ishango, May 6.

62 from low point of afternoon drive,  
S.W. road, Ishango, May 6.

63 by log in pygmy village, 23 kilometers  
from Beni, May 8.



- : 64 from path to pygmy village near Beni,  
May 8.
- 65 from Dicha hospital grounds, A.I.M., 30  
kilometers from Beni, May 8.
- 66 near kilometer <sup>-post</sup> 469, <sup>out of Butembo on way to</sup> ~~before~~ Rwindi  
Camp, May 9.
- 67 near hippo dung, near bathing spot  
monument, Rwindi Camp, May 10.
- 68 from buffalo watering place near peli-  
can ground, Rwindi, May 10.
- 69 from hippo shore, near #67, ~~R~~  
Rwindi Camp, May 10.
- 70 from top of bank above lion feed-  
ing ground near hippo pool after-  
noon, ~~at~~ May 10
- 71 road-side rut Tshibati Farm,  
Lwiro, May 15.
- 72 from bank of stream Tshibati  
Farm, Lwiro, May 15.
- 73 from entrance of <sup>Mia-ya-</sup> ~~Maya~~ moto bat  
cave, Lake Kivu, May 16
- 74 from ~~path~~ to #73 bat cave, May 16.



black volcanic

- 75 rock and soil ~~samples~~ from Mulungu farm (Hendricks), May 17.
- 76 from cotton field, south of Uvira, Lake Tanganyika, May 20.
- 77 from bank of stream near railway, Uvira, Lake Tanganyika, May 20.
- 78 bottom sample <sup>dredged</sup> from 13 meters, off Uvira station, Lake Tanganyika, May 20.
- 79 road side <sup>excavation</sup> ~~at~~ out of Astrida, May 23, red patch at bottom of pit,
- 80 opposite side of road from #79, dry dark soil near tree and among grass roots, May 23.
- 81 67 kilometers out of Astrida,  
from among grass roots  
on road to Gabiro, near welcome sign to province of Kibungu, May 23.
- 82 near where zebras were photo'd  
Kagera Park, May 24.
- 83 from crocodile nest pit, Kagera Park, May 24.



84 From top of hill where rest house  
is to be built, Kagera Park, May 24.

85 from causeway ditch, Kagera Park,  
May 24.

86 from grass roots top of causeway  
ditch Kagera Park, May 24.

Uganda

87 on road to duba, May 28

Sudan

88

near puddle near shore, Buffalo  
Cape, river Nile, June 1.

89

between piles of wood, Buffalo  
Cape, river Nile, June 1.

90

hard lumps of soil, Buffalo  
Cape, river Nile, June 1.

91

from shore Kaka, river Nile  
June 2.

92

soft black soil, from just  
above waters edge, Salem  
Bango, river Nile, June 3.

93

Debelem, river Nile, June 4



In addition there are <sup>perhaps</sup> about 4 samples taken in Leopoldville, Apr. 13-15. One or more were taken in the Ferdinand De Bock Park, ~~at~~ or alongside <sup>the</sup> road ~~of~~ <sup>street</sup> nearby, and ~~one~~ one or two in native market, ~~these last~~ market soil sample or samples were taken on the 15<sup>th</sup>. I was unable to check labelling on muslin sacks as I did not want to cut plastic bags in which it was sealed.

Several samples appear to have been improperly dried, and seem to have moulded within plastic bags.

63 or so samples.



Dear Dr. Wolf,

①

You folks have taken  
a considerable weight<sup>2</sup> off my mind  
with the acceptance of the ~~soil~~ <sup>soil</sup> ~~pottery~~  
samples collected <sup>for the greater part</sup> in the Belgian  
Cong, and in a small part in the  
Sudan ~~in the~~ <sup>during</sup> course of the  
Smithsonian - Bredin Expedition  
this past April, May, and June.



(list enclosed). In this mail or with  
in a day or two you will hear from  
Dr. Willis H. Wheeler regarding the  
<sup>conditions</sup>  
~~regulations~~ set up by the U.S. Department  
of Agriculture ~~under~~ which the handling of  
raw, <sup>unfumigated</sup> samples of soil is permitted.

As soon as  
~~when~~ Dr. Wheeler releases the samples  
to me I shall forward them <sup>to you</sup> ~~express~~  
~~prepaid~~ I shall endeavor to ~~protect~~ <sup>over</sup> them



against undue cold, and ask the  
express company not to leave  
them around in an unheated place.  
If there is any chance that freezing  
would harm the samples please warn  
me and so that we <sup>can then</sup> ~~can~~ wait  
~~for~~ more moderate <sup>or lower</sup> temperatures  
than <sup>obtaining</sup> ~~at~~ present ~~to obtain~~. Under  
any circumstances, I shall not be <sup>on</sup> ~~able~~ <sup>able</sup> to send the samples ~~to you~~ <sup>until</sup> ~~next week~~ <sup>if then depending up</sup> until Dr. Wheeler gets  
your reply to his



(3)

4. You will no doubt have heard something about these specimens from Mr. Bjornson. With this I am sending <sup>regarding them.</sup> you the <sup>other</sup> pertinent correspondence ~~regarding~~ my desire to have ~~something done~~ with ~~and about~~ them. ~~In conformity with your~~ "As the rule with you Diotics people," They are being sent ~~to you~~ with "no strings" of any kind attached.



~~Dear Sir~~

4/ I ~~am~~ trying to be as hopeful as can  
be that you may find something  
worth<sup>while</sup> ~~in~~ in one or more of  
these soils. Should you be looking  
for a name for something new,  
Mr. Bredin, <sup>who made the expedition possible,</sup> his wife, Octavia, or  
~~her~~ little daughter, Antonia,  
most recent addition to the family,



or more remotely, James Smithson -  
who founded this Institution,  
might be considered. I do not  
want to do a lot of foolish an-  
ticipating, but I am holding a  
good thought as the Christian  
Scientists say

Sincerely



November 30, 1955

Dr. Dale E. Wolf  
E. I. du Pont de Nemours & Company  
Grasselli Chemicals Department  
Building 268, Experimental Station  
Wilmington, Delaware

Dear Mr. Wolf:

You folks have taken a considerable weight off my mind with the acceptance of the soil samples collected for the greater part in the Belgian Congo and a small part in the Sudan during the Smithsonian-Bredin Expedition this past April, May, and June (list enclosed).

In this mail or within a day or two you will hear from Dr. Willis H. Wheeler regarding the conditions set up by the U. S. Department of Agriculture under which the handling of raw, unfumigated samples of soil is permitted. As soon as Dr. Wheeler releases the samples to me I shall forward them to you. I shall endeavor to protect them against undue cold, and ask the express company not to leave them around in an unheated place. If there is any chance that freezing would harm the samples please warn me. We can then await more moderate outdoor temperatures than obtain at present. Under any circumstances, I shall not be able to send the samples on until Dr. Wheeler gets your reply to his letter.

You will no doubt have heard something about these specimens from Mr. Bjornson. With this I am sending you the other pertinent correspondence regarding them. They are being sent with "no strings" of any kind attached.

~~I am trying to be as~~ hopeful ~~as can be~~ that you may find something worthwhile in one or more of these soils. Should you be looking for a name for something new---Mr. Bredin, who made the expedition possible; his wife, Octavia; or little daughter, Antonia--most recent addition to the family; or more remotely, James Smithson, who founded this Institution---all or any of these might be considered. I do not want to do a lot of foolish anticipating but I am holding a good thought, as the Christian Scientists say.

Sincerely,

Waldo L. Schmitt  
Head Curator  
Department of Zoology

Encs.  
WLS:vb